United States Department of Agriculture

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MINNESOTA BULLETIN NO. 180-5-5

SUBJECT: CPA – RUSLE2 TECHNOLOGY UPDATES

ACTION DUE BY: DECEMBER 16, 2005

Purpose. To ensure all offices are using the most current technology.

Expiration Date. December 31, 2005

Since we are using RUSLE2 to obtain SCI and STIR information for use in the Environmental Quality Incentive Program (EQIP) and Conservation Security Program (CSP), it is important that all offices are using the most current version of this program, and the most current database. The most current version of the program is posted on the RUSLE2 website, ftp://fargo.nserl.purdue.edu/pub/RUSLE2/RUSLE2_Program_File/, and is dated 9/14/2004. (This is the same as the August 4, 2004 version). All offices should check to see that this is the version they are using. If not, contact the Information Technology Services Division (ITSD) or someone with an administrator password to load the current version. Archive your current moses database before installing the new version. Instructions for installing a new version are located on the Minnesota NRCS web site.

There have been a number of updates to the base database, the CMZs and the soils data as well. All of the current databases are also on the RUSLE2 website. The most current CMZ files are under the "Crop Management Templates / Data Files" tab. The soils are under the "Soils Data / Data Files" tab. The current soils files are named "(county name) Co. MN 2005.gdb". If the soils file you are using for your county does not have "2005" as part of the name, it is an old file and need to be replaced with the current one. Instructions for doing this import are in a PDF file located at this site as well.

The base database (that comes with the program when it is installed) has also had a number of updates. These are found at: ftp://fargo.nserl.purdue.edu/pub/RUSLE2/NRCS_Base_Database/Latest%20Base%20Database%20Updates/. (This is: Base Database & Misc. Files / Download file / latest database updates / NRCS_Moses_updates_030104toxxxx). The word document that explains how to import these updates to your computer is attached to this email. This file contains two additional Aerway operations records as well as the latest additions and edits to other operations, vegetations and other base parts of the database. Things like coulter caddies, rolling basket incorporators and rotary harrow operations have been added in the last few months, so it is important to do this update.

These updates need to be completed by December 16, 2005, to insure program consistency. ASTCs are to coordinate this update process in their individual areas.

Additional Information About Database Changes

1. Pasture and Hay management templates: The alfalfa and pasture templates have been revised in CMZs 1, 2 and 4 to correct the yield levels for the senescence period. This should correct the problems with the erosion rates for these managements.

2. Combination Seedbed Finisher Tools: When you want to model various combination seedbed finishing machines, you will not always find the exact machine listed in the RUSLE2 database. There are many different combo finishing tools with various combinations of components. Since each component on the machine disturbs soil differently, leaves different ridge dimensions, different random roughness and buries differing amounts of residue, we need to account for all these separate effects. You may list separate operations on the same day representing each component of the machine as they are mounted, from front to rear. For example, if the rolling basket incorporator is the last component on the machine it should be listed as such in the management file.

3. Aerway Tool: The "Aerator, field surface, ground driven" (Aerway) operation in the RUSLE2 database was based on the 5 degree or middle gang offset angle. Due to the variability in how this machine can be adjusted, two new operations have been added to the database for zero and 10 degree gang offset angles. Surface soil disturbance and residue burial rates were adjusted accordingly. This accounts for appropriate differences in the soil loss and SCI. There is also some difference in STIR, which is logical with the increased disturbance as the gang offset angle is increased.

4. Manure Effectiveness Factor: Remember to use the 0.5 effectiveness factor on liquid and slurry manure types when calculating the dry matter equivalent when entering the amount of air dry manure applied in the RUSLE2 managements. There are specific notes in the information box (in the program) on the manure types. This information is also in the "Additions to the RUSLE2 Users Guide 2005" which is posted on the Minnesota NRCS web site.

5. Soil Removal Tables for Sod Farming and Nursery Operations: Tables for estimating soil removal, for use with sod farms and tree nurseries, have been posted on the RUSLE2 website in the "Base Database & Misc. Files" folder, under "Download file / Soil Removal tables for B&B and Sod Farms" folder. (ftp://fargo.nserl.purdue.edu/pub/RUSLE2/NRCS_Base_Database/) This additional soil removal needs to be accounted for in the SCI box. It is entered into the "Wind & Irrigation induced" box. Instructions are included with the Tables.

Questions about this bulletin should be directed to Robin Martinek, State Agronomist, at (651)602-7866.

WILLIAM HUNT
State Conservationist

Attachment

DIST: ASTC (FO), ARC